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Further List of Corrections suggested by M. Jenkins to Prof. Sylvester's Constructive Theory of Partitions.

AMERICAN JOURNAL OF MATHEMATICS, Vol. V, Nos. 3 and 4.

Vol. V, No. 3, p. 255, 8 lines from end, 2n - (i + 3) should be n - (i + 3).

Page 256, between 2d and 3d rows of sinister table insert 13.2.0

- " " 7th and 8th " " " 11.2.2
- " in 6th row of dexter table, for 8.4.3(2) write 8.4.3(1).
- " 261, line 11 from the end, interchange protraction and contraction so as to read "contraction could not now be applied to A' and B' nor protraction to C'."
- " 263, line 21. If $f(x) = (1-x)(1-x^3)(1-x^3)(1-x^7)(1-x^9)$, for the second x^3 read x^5 .
- " line 25, for 'latter' read 'former'.
- " 265, line 29, for l^{τ} read l^{λ} .
- " 270, line 11, for 1+2 read i+2.
- " line 12, for 1+2 read i+2.
- " 272, line 7, for $X_j x^{\frac{i^2+i}{2}}$ read $X_j x^{\frac{j^2+j}{2}}$.
- " line 14, for 'the minimum negative residue of i-1' read i+1.
- " 274, line 6 from end, for $\frac{x^{\frac{1}{2}n(n+1)}}{1-x^n}$ read $\frac{x^{\frac{1}{2}r(r+1)}}{1-x^r}$.
- " 275, line 9, for 'to the 5th now' read 'to the 5th row now."
- " 276, line 21, for 15, 7, 3 read 13, 11, 3.
- " line 22, for $(1+ax)(1-ax^3)(1-ax^j)$... read $(1+ax)(1+ax^3)$... $(1+ax^{2j-1})$.
- " line 24, for $\frac{x}{1-x}\alpha$ read $\frac{x}{1-x^2}\alpha$.
- " line 25, for 'angle whose nodes contain i nodes' read whose sides.

Page 277, line 9, for 'with j-i or fewer parts' read j-1.

" line 14, for
$$1 + \frac{1 - x^{\omega + 1}}{1 - x^2} x^{\omega} + \frac{1 - x^{\omega + 1} \cdot 1 - x^{\omega + 3}}{1 - x \cdot 1 - x^4} x^{\omega + 1}$$
 etc.

read $x^{\omega} + \frac{1 - x^{\omega - 1}}{1 - x^2} x^{\omega + 1} + \frac{1 - x^{\omega - 1} \cdot 1 - x^{\omega - 3}}{1 - x^2 \cdot 1 - x^4} x^{\omega + 4} + \text{etc.}$

If in the expression in line 11, viz. in

$$\frac{1-x^{2i-2j+2}\cdot 1-x^{2i-2j+4}\cdot \dots 1-x^{2i-2}}{1-x^2\cdot 1-x^4\cdot \dots 1-x^{2j-2}}x^{j^2-2j+2i}, \text{ we put } j=3 \text{ we obtain}$$

$$\frac{1-x^{2i-4}\cdot 1-x^{2i-2}}{1-x^2\cdot 1-x^4}\cdot x^{9-6+2i} = \frac{1-x^{2i-2}\cdot 1-x^{2i-4}}{1-x^2\cdot 1-x^4}\cdot x^{2i+3} = \frac{1-x^{\omega-1}\cdot 1-x^{\omega-3}}{1-x^2\cdot 1-x^4}\cdot x^{\omega+4},$$

since $\omega = 2i - 1$, and similarly for other terms when we put j = 2 and j = 1.

The correction which I offer seems to me to be right, and the expression in the paper to give a wrong result in the case when n happens to be equal to $\omega + 2$: for then the number of parts being supposed to be exactly i, the first bend contains 2i-1 or ω nodes, and there is then no way of placing the remaining 2 nodes so as to make the partition a conjugate partition—supposing I have not misunderstood the article.

Page 278, line 13, for 19, 7, 6, 6 read 10, 7, 6, 6.

- " 279, figure, either insert a node at junction of 5th column and 7th row or remove a node from junction of 7th column and 5th row.
- " lines 6 and 7, if we remove a node from the figure no change is required in these two lines; but if we insert a node in the figure, then 11 11 11 7 3 3 should be 11 11 11 7 5 3 and 5 5 5 3 1 1 should be 5 5 5 3 2 1.
- " 280, line 5 from end, after $\frac{1}{1-\alpha x.1-\alpha x^2...1-\alpha x^{\theta}}$ insert 'or of $x^n a^j$.'
- " 283, line 3, for a^j read a^{θ} .
- " line 4, for $(x^{\theta} + ax^{1\theta})$ read $(x^{\theta} + x^{2\theta})$.
- " 285, line 1, for $\frac{l_1(2-j-1)}{2}$ read $\frac{l_1-(2j-1)}{2}$.
- " line 6 from end omitting notes, for x^n read $x^{\frac{n}{2}}$.
- " line 7, for x^{2i+1} read x^{2i+2} .
- " 288, $a_i i$ is, I believe, the right final term; but it appears as if it were the first of a pair instead of the last of a pair, $a_i i$ being a quantity which may vanish.

Jenkins: Prof. Sylvester's Constructive Theory of Partitions.

If the pair of expressions which in the text precede $a_i - i$, if definitely expressed and not left to be understood, should be

I do not quite follow the first 5 lines of p. 289 (in No. 4), possibly from the oversight in the subscripts I do not see what is intended. But in seems to me the following proof would be right:

The expressions of the same form succeeding $a_1 + a_1 - 1$ and $a_1 + a_2 - 2$ must be continued so long as they are positive, and must be rejected when they become negative.

Now from the fact of i being the content of the side of the square belonging to the transverse graph $a_i = \text{ or } > i$, $a_i = \text{ or } > i$, therefore $a_i + a_i - (2i - 1)$ is positive and is therefore one of the terms of the series. Also $a_{i+1} = \text{or} < i$ and $a_{i+1} = \text{or } < i$, therefore $a_{i+1} + a_{i+1} - (2i+1)$ is negative and must consequently be rejected.

The intermediate expression is $a_i + a_{i+1} - 2i$; and for this we may in all cases put $a_i - i$ as the last term of the series for the following reason:

If the extreme inside bend have more than one node in the row, then a_{i+1} =i and $a_i + a_{i+1} - 2i$ is $=a_i - i$, which is not negative since $a_i = 0$. If the extreme inside bend degenerate, so that it consists only of a vertical line or of a single point, then $a_i = i$; and since $a_{i+1} < i$ in this case, therefore $a_i + a_{i+1} - 2i$ is negative and inadmissible as a term in the series; but since $a_i - i = 0$ there is no harm in putting it as the final term in the series.

Vol. V, No. 2, On Subinvariants, i. e. Semi-Invariants to Binary Quantics OF AN UNLIMITED ORDER.

Page 114, last line, for 3100 read 3110.